To: CN=Erin Foresman/OU=R9/O=USEPA/C=US@EPA[]

Cc: []

From: CN=Bruce Herbold/OU=R9/O=USEPA/C=US

**Sent:** Wed 8/15/2012 8:22:40 PM

Subject: Re: Help with latest version of comments to State Board

Recent documents from BDCP, using results of models from Maunder and Deriso for delta smelt suggests that marsh productivity is a vital food resource and that turbidity is a vital aspect of pelagic habitat. The UnTrim Model results imply that different portions of the low salinity zone respond differently to changes in X2 between 60 and 75 which highlights important studies of physical and ecological processes. On the other hand, the model results show that all potential benefits of the low salinity zone are minimized at X2 greater than about 80. Analysis of the historical record shows that X2 > 80 in all months were rare except during droughts as recently as the late 1990s. Thus, there appears to be a minimum X2 to achieve any of the benefits associated with X2 movement, but there remain important questions of how X2 lower than 75 benefit the pelagic ecosystem.

Bruce Herbold USEPA Fish Biologist (415) 972 3460

"If 90% of the ideas you generate aren't absolutely worthless, then you're not generating enough ideas". -- Michael Artin